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FIG. 1A

5'	GCC	ATG	GGG	GGA	AAG	CAG	CGG	GAC	GAG	GAT	GAC	GAG	GCC	TAC	GGG	AAG	CCA	GTC
	M	G	G	K	Q	R	D	E	D	D	E	A	Y	G	K	P	V	
	65	74	83	92	101	110												
	AAA	TAC	GAC	CCC	TCC	TTT	CGA	GGC	CCC	ATC	AAG	AAC	AGA	AGC	TGC	ACA	GAT	GTC
	K	Y	D	P	S	F	R	G	P	I	K	N	R	S	C	T	<u>D</u>	V
	119	128	137	146	155	164												
	ATC	TGC	TGC	GTC	CTC	TTC	CTG	CTC	TTC	ATT	CTA	GGT	TAC	ATC	GTG	GTG	GGG	ATT
	<u>I</u>	C	C	V	L	F	L	L	F	I	L	G	Y	I	V	V	G	I
	173	182	191	200	209	218												
	GTG	GCC	TGG	TTG	TAT	GGA	GAC	CCC	CGG	CAA	GTC	CTC	TAC	CCC	AGG	AAC	TCT	ACT
	<u>V</u>	A	W	L	Y	G	D	P	R	Q	V	L	Y	P	R	N	S	T
	227	236	245	254	263	272												
	GGG	GCC	TAC	TGT	GGC	ATG	GGG	GAG	AAC	AAA	GAT	AAG	CCG	TAT	CTC	CTG	TAC	TTC
	G	A	Y	C	G	M	G	E	N	K	D	K	P	Y	<u>L</u>	<u>L</u>	Y	F
	281	290	299	308	317	326												
	AAC	ATC	TTC	AGC	TGC	ATC	CTG	TCC	AGC	AAC	ATC	ATC	TCA	GTG	GCT	GAG	AAC	GGC
	<u>N</u>	<u>I</u>	<u>F</u>	<u>S</u>	<u>C</u>	<u>I</u>	<u>L</u>	<u>S</u>	<u>S</u>	<u>N</u>	<u>I</u>	<u>I</u>	<u>S</u>	<u>V</u>	<u>A</u>	<u>E</u>	<u>N</u>	<u>G</u>
	335	344	353	362	371	380												
	CTA	CAG	TGC	CCC	ACA	CCC	CAG	GTG	TGT	GTG	TCC	TCC	TGC	CCG	GAG	GAC	CCA	TGG
	<u>L</u>	Q	C	P	T	P	Q	V	C	V	S	S	C	P	E	D	P	W
	389	398	407	416	425	434												
	ACT	GTG	GGA	AAA	AAC	GAG	TTC	TCA	CAG	ACT	GTG	GGG	GAA	GTC	TTC	TAT	ACA	AAA
	T	V	G	K	N	E	F	S	Q	T	V	G	E	V	F	Y	T	K
	443	452	461	470	479	488												
	AAC	AGG	AAC	TTT	TGT	CTG	CCA	GGG	GTA	CCC	TGG	AAT	ATG	ACG	GTG	ATC	ACA	AGC
	<u>N</u>	<u>R</u>	<u>N</u>	<u>F</u>	<u>C</u>	<u>L</u>	<u>P</u>	<u>G</u>	<u>V</u>	<u>P</u>	<u>W</u>	<u>N</u>	<u>M</u>	<u>T</u>	<u>V</u>	<u>I</u>	<u>T</u>	<u>S</u>
	497	506	515	524	533	542												
	CTG	CAA	CAG	GAA	CTC	TGC	CCC	AGT	TTC	CTC	CTC	CCC	TCT	GCT	CCA	GCT	CTG	GGG
	<u>L</u>	Q	Q	E	L	C	P	S	F	L	L	P	S	A	P	A	L	G
	551	560	569	578	587	596												
	CGC	TGC	TTT	CCA	TGG	ACC	AAC	GTT	ACT	CCA	CCG	GCG	CTC	CCA	GGG	ATC	ACC	AAT
	R	C	F	P	W	T	N	V	T	P	P	A	L	P	G	I	T	N

FIG. 1B

605	614	623	632	641	650
GAC ACC ACC ATA CAG CAG GGG ATC AGC GGT CTT ATT GAC AGC CTC AAT GCC CGA					

D	T	T	I	Q	Q
G	I	S	G	L	I
D	S	L	N	A	R
659	668	677	686	695	704
GAC ATC AGT GTT AAG ATC TTT GAA GAT TTT GCC CAG TCC TGG TAT TGG ATT CTT					

D	I	S	V	K	I
F	E	D	<u>F</u>	A	Q
S	W	Y	W	I	L
713	722	731	740	749	758
GTT GCC CTG GGG GTG GCT CTG GTC TTG AGC CTA CTG TTT ATC TTG CTT CTG CGC					

V	A	L	G	V	A
L	V	S	L	L	R
767	776	785	794	803	812
CTG GTG GCT GGG CCC CTG GTG CTG GTG CTG ATC CTG GGA GTG CTG GGC GTG CTG					

L	V	A	<u>G</u>	L	V
P	L	V	L	I	L
821	830	839	848	857	866
GCA TAC GGC ATC TAC TAC TGC TGG GAG GAG TAC CGA GTG CTG CGG GAC AAG GGC					

<u>A</u>	Y	G	I	Y	Y
C	W	E	E	Y	R
V	L	I	L	G	V
875	884	893	902	911	920
GCC TCC ATC TCC CAG CTG GGT TTC ACC ACC AAC CTC AGT GCC TAC CAG AGC GTG					

A	S	I	S	Q	V
L	G	F	T	N	S
929	938	947	956	965	974
CAG GAG ACC TGG CTG GCC GGC CTG ATC GTG TTG GCG GTG CTT GAA GCC ATC CTG					

<u>Q</u>	E	T	W	L	A
A	A	L	I	V	L
983	992	1001	1010	1019	1028
CTG CTG ATG CTC ATC TTC CTG CGG CAG CGG ATT CGT ATT GCC ATC GCC CTC CTG					

<u>L</u>	L	M	<u>L</u>	<u>I</u>	F
R	Q	R	I	R	I
1037	1046	1055	1064	1073	1082
AAG GAG GCC AGC AAG GCT GTG GGA CAG ATG ATG TCT ACC ATG TTC TAC CCA CTG					

K	E	A	S	K	A
V	G	Q	M	M	S
1091	1100	1109	1118	1127	1136
GTC ACC TTT GTC CTC CTC CTC ATC TGC ATT GCC TAC TGG GCC ATG ACT GCT CTG					

<u>V</u>	T	F	V	L	L
I	I	C	I	A	Y
1145	1154	1163	1172	1181	1190
TAC CTG GCT ACA TCG GGG CAA CCC CAG TAT GTG CTC TGG GCA TCC AAC ATC AGC					

<u>Y</u>	L	A	T	S	N
G	Q	P	Q	W	I
1199	1208	1217	1226	1235	1244
TCC CCC GGC TGT GAG AAA GTG CCA ATA AAT ACA TCA TGC AAC CCC ACG GCC CAC					

S	P	G	C	E	K
V	P	I	N	T	S
C	N	P	T	A	H

FIG. 1C

1253	1262	1271	1280	1289	1298
CTT GTG AAC TCC TCG TGC CCA GGG CTG ATG TGC GTC TTC CAG GGC TAC TCA TCC					

L V N S S C P G	L M C V F	Q G Y S S			
1307	1316	1325	1334	1343	1352
AAA GGC CTA ATC CAA CGT TCT GTC TTC AAT CTG CAA ATC TAT GGG GTC CTG GGG					

K G L I Q R S V F N	L Q I Y G V L G				
1361	1370	1379	1388	1397	1406
CTC TTC TGG ACC CTT AAC TGG GTA CTG GCC CTG GGC CAA TGC GTC CTC GCT GGA					

L F W T L N W V L A	L G Q C V L A G				
1415	1424	1433	1442	1451	1460
GCC TTT GCC TCC TTC TAC TGG GCC TTC CAC AAG CCC CAG GAC ATC CCT ACC TTC					

A F A S F Y W A F H K P	Q D I P T F				
1469	1478	1487	1496	1505	1514
CCC TTA ATC TCT GCC TTC ATC CGC ACA CTC CGT TAC CAC ACT GGG TCA TTG GCA					

P L I S A F I R T L R Y H T G	S L A				
1523	1532	1541	1550	1559	1568
TTT GGA GCC CTC ATC CTG ACC CTT GTG CAG ATA GCC CGG GTC ATC TTG GAG TAT					

F G A L I L T L V Q I A R V I L E Y					
1577	1586	1595	1604	1613	1622
ATT GAC CAC AAG CTC AGA GGA GTG CAG AAC CCT GTA GCC CGC TGC ATC ATG TGC					

I D H K L R G V Q N P V A R C I M C					
1631	1640	1649	1658	1667	1676
TGT TTC AAG TGC TGC CTC TGG TGT CTG GAA AAA TTT ATC AAG TTC CTA AAC CGC					

C F K C C L W C L E K F I K F L N R					
1685	1694	1703	1712	1721	1730
AAT GCA TAC ATC ATG ATC GCC ATC TAC GGG AAG AAT TTC TGT GTC TCA GCC AAA					

N A Y I M I A I Y G K N F C V S A K					
1739	1748	1757	1766	1775	1784
AAT GCG TTC ATG CTA CTC ATG CGA AAC ATT GTC AGG GTG GTC GTC CTG GAC AAA					

N A F M L L M R N I V R V V V L D K					
1793	1802	1811	1820	1829	1838
GTC ACA GAC CTG CTG TTC TTT GGG AAG CTG CTG GTG GTC GGA GGC GTG GGG					

V T D L L F F G K L L V V V G G V G					
1847	1856	1865	1874	1883	1892
GTC CTG TCC TTC TTT TTC TCC GGT CGC ATC CCG GGG CTG GGT AAA GAC TTT					

V L S F F F S G R I P G L G K D F					

FIG. 1D

1901	1910	1919	1928	1937	1946
AAG AGC CCC CAC CTC AAC TAT TAC TGG CTG CCC ATC ATG ACC TCC ATC CTG GGG					
- - - - -					
K S P H L N Y Y W L P I M T S I L G					
1955	1964	1973	1982	1991	2000
GCC TAT GTC ATC GCC AGC GGC TTC TTC AGC GTT TTC GGC ATG TGT GTG GAC ACG					
- - - - -					
A Y V I A S G F F S V F G M C V D T					
2009	2018	2027	2036	2045	2054
CTC TTC CTC TGC TTC CTG GAA GAC CTG GAG CGG AAC AAC GGC TCC CTG GAC CGG					
- - - - -					
L F L C F L E D L E R N N G S L D R					
2063	2072	2081	2090	2099	2108
CCC TAC TAC ATG TCC AAG AGC CTT CTA AAG ATT CTG GGC AAG AAG AAC GAG GCG					
- - - - -					
P Y Y M S K S L L K I L G K K N E A					
2117	2126	2135	2144	2153	2162
CCC CCG GAC AAC AAG AAG AGG AAG AAG TGA CAG CTC CGG CCC TGA TCC AGG ACT					
- - - - -					
P P D N K K R K K *					
2171	2180	2189	2198	2207	2216
GCA CCC CAC CCC CAC CGT CCA GCC ATC CAA CCT CAC TTC GCC TTA CAG GTC TCC					
- - - - -					
2225	2234	2243	2252	2261	2270
ATT TTG TGG TAA AAA AAG GTT TTA GGC CAG GCG CCG TGG CTC ACG CCT GTA ATC					
- - - - -					
2279	2288	2297	2306	2315	2324
CAA CAC TTT GAG AGG CTG AGG CGG GCG GAT CAC CTG AGT CAG GAG TTC GAG ACC					
- - - - -					
2333	2342	2351	2360	2369	2378
AGC CTG GCC AAC ATG GTG AAA CCT CCG TCT CTA TTA AAA ATA CAA AAA TTA GCC					
- - - - -					
2387	2396	2405	2414	2423	2432
GAG AGT GGT GGC ATG CAC CTG TCA TCC CAG CTA CTC GGG AGG CTG AGG CAG GAG					
- - - - -					
2441	2450	2459	2468	2477	2486
AAT CGC TTG AAC CCG GGA GGC AGA GGT TGC AGT GAG CCG AGA TCG CGC CAC TGC					
- - - - -					
2495	2504	2513	2522	2531	2540
ACT CCA ACC TGG GTG ACA GAC TCT GTC TCC AAA ACA AAA CAA ACA AAC AAA AAG					
- - - - -					
2549	2558	2567	2576	2585	
ATT TTA TTA AAG ATA TTT TGT TAA CTC AGT AAA AAA AAA AAA AA 3'					
- - - - -					

FIG. 1E

9 18 27 36 45 54
5' GAT CAG GGC GGC CAG CCA GGT CTC CTG CAC GCT CTG GTA GGC ACT GAG GTT GGT

D Q G G Q P G L L H A L V G T E V G
63 72 81 90 99 108
GGT GAA ACC CAG CTG GGA GAT GGA GGC GCC CTC GTC CCG CAG CAC TCG GTA CTC

G E T Q L G D G G A L V P Q H S V L
117 126 135 144 153
CTC CCA GCA GTA GTA GAT GCC ATA TGC CAG CAC GCC CAG CAC TCC CAG GAT C 3'

L P A V V D A I C Q H A Q H S Q D

FIG. 2A

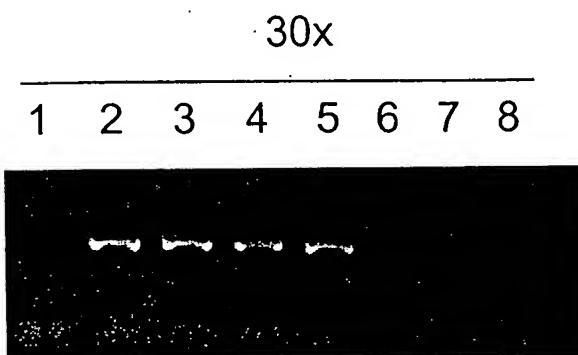


FIG. 2B

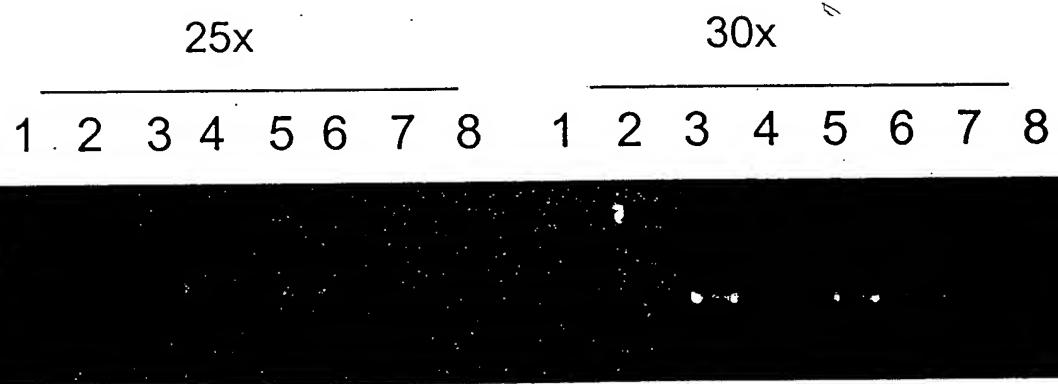


FIG. 2C

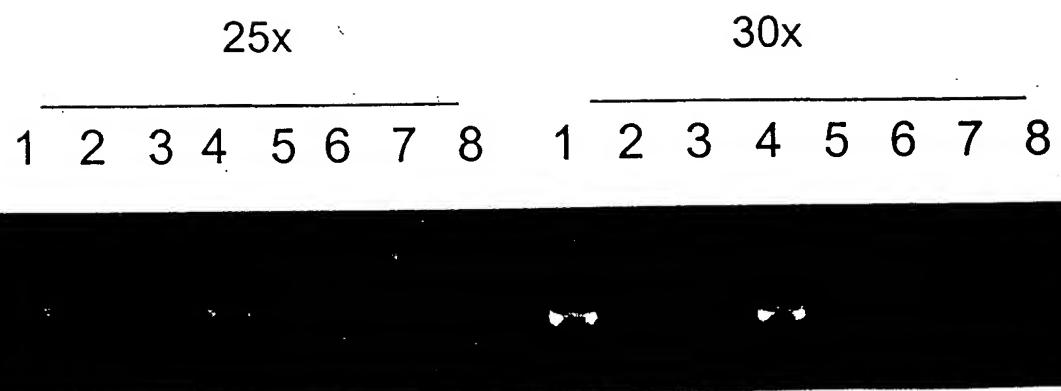


FIG. 3A

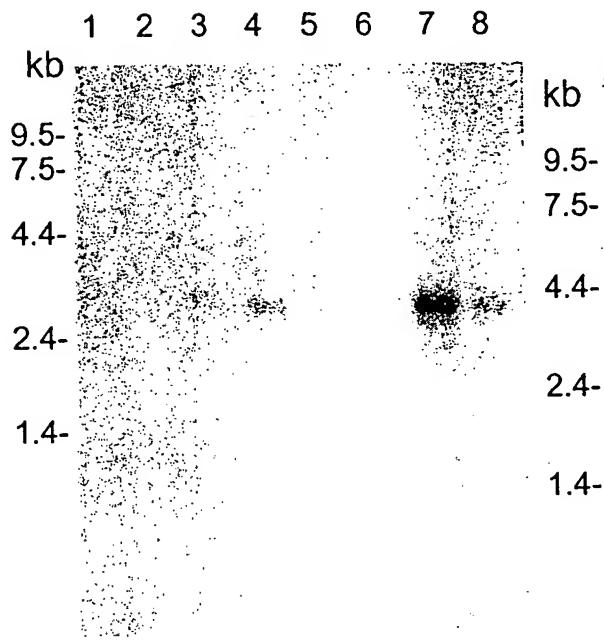


FIG. 3B

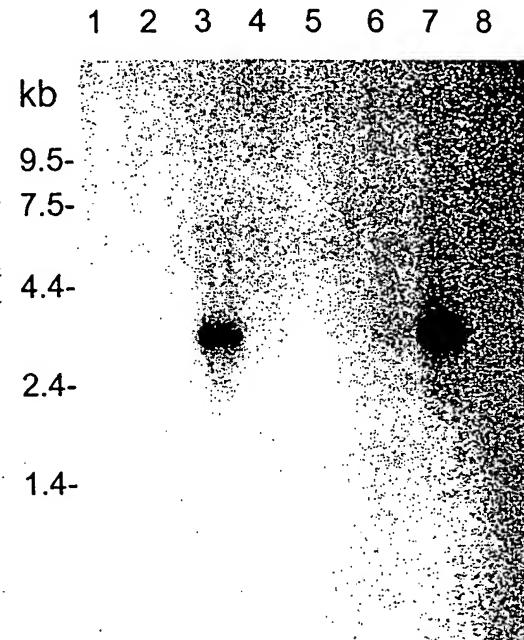


FIG. 3C

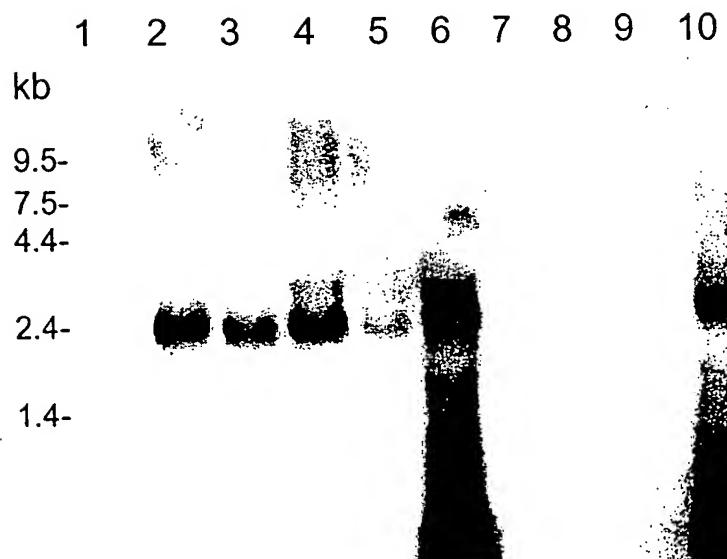


FIG. 4A

FIG. 4B

24P4C12 604 LLVVGGVVLSPFFFFSGRI PGLKDFKSPHLNYYWLPIMTSILGAYVIASGFFSVFGMCV

mNG22 601 LLVVGGVVLSPFFFFSGRI KGLKDFENPNLNYYWLPIMTSIMGAYVIASGFFSVFGMCV

24P4C12 664 DTLFLCFLEDLERNNGSLDRPYYMSKSLLKILGKKNEAPPDNKKRKK

mNG22 661 DTLFLCFLEDLERNDGSQERPYYMPKALLKILGKKNEAPTGGKTRKK

FIG. 5

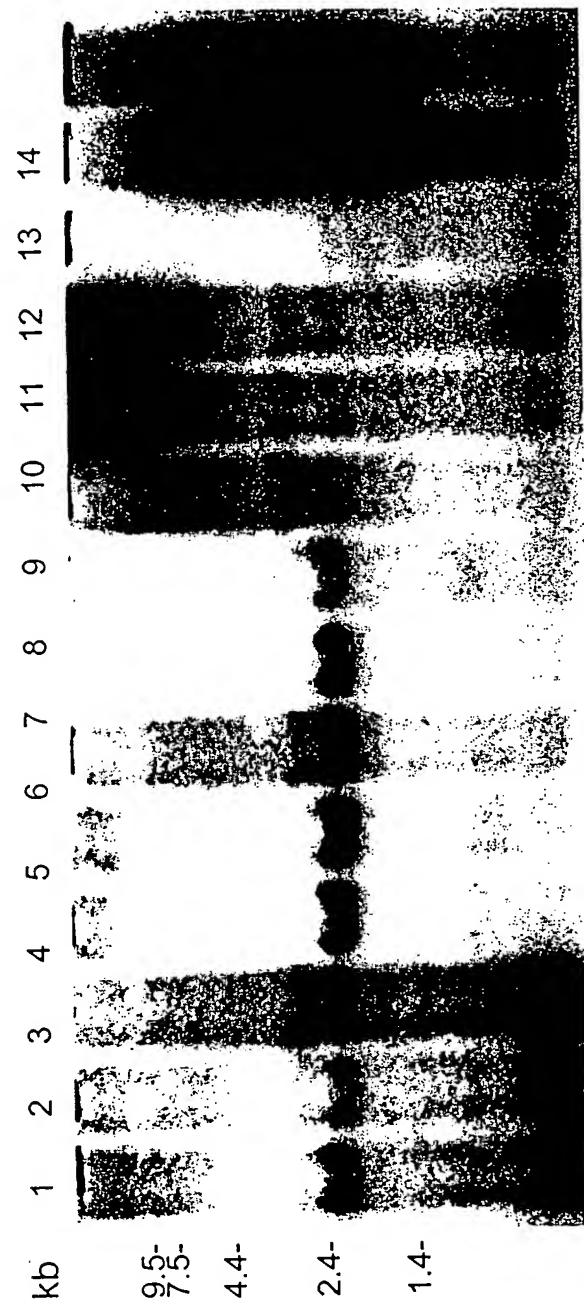


FIG. 6A

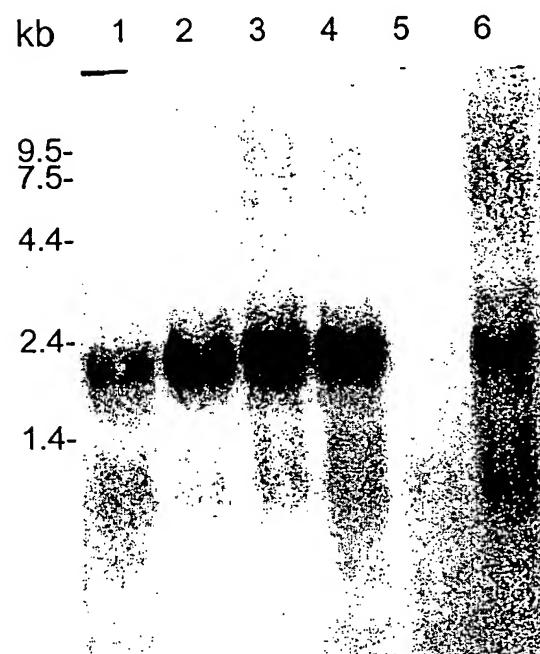


FIG. 6B



FIG. 7A

10	19	28	37	46	55
GCC CGC CCG GGC TGG GGT CGC GCT GGC TCG GAC TCC GCT CCC CGC CCC GCC GCG					
64	73	82	91	100	109
GCC ATG GAG GAC GAG CGG AAA AAC GGA GCC TAC GGA ACG CCA CAG AAG TAT GAT					
M E D E R K N G A Y G T P Q K Y D					
118	127	136	145	154	163
CCC ACT TTC AAA GGA CCC ATT TAC AAT AGG GGC TGC ACG GAT ATC ATA TGC TGT					
P T F K G P I Y N R G C T D I I C C					
172	181	190	199	208	217
GTG TTC CTG CTC CTG GCC ATT GTG GGC TAC GTG GCT GTA GGC ATC ATA GCC TGG					
V F L L A I V G Y V A V G I I A W					
226	235	244	253	262	271
ACT CAT GGA GAC CCT CGA AAG GTG ATC TAC CCC ACT GAT AGC CGG GGC GAG TTC					
T H G D P R K V I Y P T D S R G E F					
280	289	298	307	316	325
TGC GGG CAG AAG GGC ACA AAA AAC GAG AAC AAA CCC TAT CTG TTT TAT TTC AAC					
C G Q K G T K N E N K P Y L F Y F N					
334	343	352	361	370	379
ATT GTG AAA TGT GCC AGC CCC CTG GTT CTG CTG GAA TTC CAA TGT CCC ACT CCC					
I V K C A S P L V L L E F Q C P T P					
388	397	406	415	424	433
CAG ATC TGC GTG GAA AAA TGC CCC GAC CGC TAC CTC ACG TAC CTG AAT GCT CGC					
Q I C V E K C P D R Y L T Y L N A R					
442	451	460	469	478	487
AGC TCC CGG GAC TTT GAG TAC TAT AAG CAG TTC TGT GTT CCT GGC TTC AAG AAC					
S S R D F E Y Y K Q F C V P G F K N					
496	505	514	523	532	541
AAT AAA GGA GTG GCT GAG GTG CTT CGA GAT GGT GAC TGC CCT GCT GTC CTC ATC					
N K G V A E V L R D G D C P A V L I					
550	559	568	577	586	595
CCC AGC AAA CCC TTG GCC CGG AGA TGC TTC CCC GCT ATC CAC GCC TAC AAG GGT					
P S K P L A R R C F P A I H A Y K G					
604	613	622	631	640	649
GTC CTG ATG GTG GGC AAT GAG ACG ACC TAT GAG GAT GGG CAT GGC TCC CGG AAA					
V L M V G N E T T Y E D G H G S R K					

FIG. 7B

658	667	676	685	694	703
AAC ATC ACA GAC CTG GTG GAG GGC GCC AAG AAA GCC AAT GGA GTC CTA GAG GCG					

N	I	T	D	L	V E G A K K A N G V L E A
712	721	730	739	748	757
CGG CAA CTC GCC ATG CGC ATA TTT GAA GAT TAC ACC GTC TCT TGG TAC TGG ATT					

R	Q	L	A	M	R I F E D Y T V S W Y W I
766	775	784	793	802	811
ATC ATA GGC CTG GTC ATT GCC ATG GCG ATG AGC CTC CTG TTC ATC ATC CTG CTT					

I	I	G	L	V I A M A M S L L F I I L L	
820	829	838	847	856	865
CGC TTC CTG GCT GGT ATT ATG GTC TGG GTG ATG ATC ATC ATG GTG ATT CTG GTG					

R	F	L	A	G I M V W V M I I M V I L V	
874	883	892	901	910	919
CTG GGC TAC GGA ATA TTT CAC TGC TAC ATG GAG TAC TCC CGA CTG CGT GGT GAG					

L	G	Y	G	I F H C Y M E Y S R L R G E	
928	937	946	955	964	973
GCC GGC TCT GAT GTC TCT TTG GTG GAC CTC GGC TTT CAG ACG GAT TTC CGG GTG					

A	G	S	D	V S L V D L G F Q T D F R V	
982	991	1000	1009	1018	1027
TAC CTG CAC TTA CGG CAG ACC TGG TTG GCC TTT ATG ATC ATT CTG AGT ATC CTT					

Y	L	H	L	R Q T W L A F M I I L S I L	
1036	1045	1054	1063	1072	1081
GAA GTC ATT ATC ATC TTG CTG CTC ATC TTT CTC CGG AAG AGA ATT CTC ATC GCG					

E	V	I	I	L L I F L R K R I L I A	
1090	1099	1108	1117	1126	1135
ATT GCA CTC ATC AAA GAA GCC AGC AGG GCT GTG GGA TAC GTC ATG TGC TCC TTG					

I	A	L	I	K E A S R A V G Y V M C S L	
1144	1153	1162	1171	1180	1189
CTC TAC CCA CTG GTC ACC TTC TTG CTG TGC CTC TGC ATC GCC TAC TGG GCC					

L	Y	P	L	V T F F L L C L C I A Y W A	
1198	1207	1216	1225	1234	1243
AGC ACT GCT GTC TTC CTG ACT TCC AAC GAA GCG GTC TAT AAG ATC TTT GAT					

S	T	A	V	F L S T S N E A V Y K I F D	
1252	1261	1270	1279	1288	1297
GAC AGC CCC TGC CCA TTT ACT GCG AAA ACC TGC AAC CCA GAG ACC TTC CCC TCC					

D	S	P	C	P F T A K T C N P E T F P S	

FIG. 7C

1306	1315	1324	1333	1342	1351												
TCC	CAT	GAG	TCC	CGC	CAA	TGC	CCC	AAT	GCC	CGT	TGC	CAG	TTC	GTC	TTC	TAC	GGT
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	H	E	S	R	Q	C	P	N	A	R	C	Q	F	V	F	Y	G
1360	1369	1378	1387	1396	1405												
GGT	GAG	TCG	GGC	TAC	CAC	CGG	GCC	CTG	CTG	GGC	CTG	CAG	ATC	TTC	AAT	GCC	TTC
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
G	E	S	G	Y	H	R	A	L	L	G	L	Q	I	<u>F</u>	<u>N</u>	<u>A</u>	<u>F</u>
1414	1423	1432	1441	1450	1459												
ATG	TTC	TTC	TGG	TTG	GCC	AAC	TTC	GTG	CTG	GCG	CTG	GGC	CAG	GTC	ACG	CTG	GCC
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>M</u>	<u>F</u>	<u>F</u>	<u>W</u>	<u>L</u>	<u>A</u>	<u>N</u>	<u>F</u>	<u>V</u>	<u>L</u>	<u>A</u>	<u>L</u>	<u>G</u>	<u>Q</u>	<u>V</u>	<u>T</u>	<u>L</u>	<u>A</u>
1468	1477	1486	1495	1504	1513												
GGG	GCC	TTT	GCC	TCC	TAC	TAC	TGG	GCC	CTG	CGC	AAG	CCG	GAC	GAC	CTG	CCG	GCC
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>G</u>	<u>A</u>	<u>F</u>	<u>A</u>	<u>S</u>	<u>Y</u>	<u>Y</u>	<u>W</u>	<u>A</u>	<u>L</u>	<u>R</u>	<u>K</u>	<u>P</u>	<u>D</u>	<u>D</u>	<u>L</u>	<u>P</u>	<u>A</u>
1522	1531	1540	1549	1558	1567												
TTC	CCG	CTC	TTC	TCT	GCC	TTT	GGC	CGG	GCG	CTC	AGG	TAC	CAC	ACA	GGC	TCC	CTG
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>F</u>	<u>P</u>	<u>L</u>	<u>F</u>	<u>S</u>	<u>A</u>	<u>F</u>	<u>G</u>	<u>R</u>	<u>A</u>	<u>L</u>	<u>R</u>	<u>Y</u>	<u>H</u>	<u>T</u>	<u>G</u>	<u>S</u>	<u>L</u>
1576	1585	1594	1603	1612	1621												
GCC	TTT	GGC	GCG	CTC	ATC	CTG	GCC	ATT	GTG	CAG	ATC	ATC	CGT	GTG	ATA	CTC	GAG
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>A</u>	<u>F</u>	<u>G</u>	<u>A</u>	<u>L</u>	<u>I</u>	<u>L</u>	<u>A</u>	<u>I</u>	<u>V</u>	<u>Q</u>	<u>I</u>	<u>I</u>	<u>R</u>	<u>V</u>	<u>I</u>	<u>L</u>	<u>E</u>
1630	1639	1648	1657	1666	1675												
TAC	CTG	GAT	CAG	CGG	CTG	AAA	GCT	GCA	GAG	AAC	AAG	TTT	GCC	AAG	TGC	CTC	ATG
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>Y</u>	<u>L</u>	<u>D</u>	<u>Q</u>	<u>R</u>	<u>L</u>	<u>K</u>	<u>A</u>	<u>A</u>	<u>E</u>	<u>N</u>	<u>K</u>	<u>F</u>	<u>A</u>	<u>K</u>	<u>C</u>	<u>L</u>	<u>M</u>
1684	1693	1702	1711	1720	1729												
ACC	TGT	CTC	AAA	TGC	TGC	TTC	TGG	TGC	CTG	GAG	AAG	TTC	ATC	AAA	TTC	CTT	AAT
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>T</u>	<u>C</u>	<u>L</u>	<u>K</u>	<u>C</u>	<u>C</u>	<u>F</u>	<u>W</u>	<u>C</u>	<u>L</u>	<u>E</u>	<u>K</u>	<u>F</u>	<u>I</u>	<u>K</u>	<u>F</u>	<u>L</u>	<u>N</u>
1738	1747	1756	1765	1774	1783												
AGG	AAT	GCC	TAC	ATC	ATG	ATT	GCC	ATC	TAC	GGC	ACC	AAT	TTC	TGC	ACC	TCG	GCC
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>R</u>	<u>N</u>	<u>A</u>	<u>Y</u>	<u>I</u>	<u>M</u>	<u>I</u>	<u>A</u>	<u>I</u>	<u>Y</u>	<u>G</u>	<u>T</u>	<u>N</u>	<u>F</u>	<u>C</u>	<u>T</u>	<u>S</u>	<u>A</u>
1792	1801	1810	1819	1828	1837												
AGG	AAT	GCC	TTC	TTC	CTG	CTC	ATG	AGA	AAC	ATC	ATC	AGA	GTG	GCT	GTC	CTG	GAT
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>R</u>	<u>N</u>	<u>A</u>	<u>F</u>	<u>F</u>	<u>L</u>	<u>L</u>	<u>M</u>	<u>R</u>	<u>N</u>	<u>I</u>	<u>I</u>	<u>R</u>	<u>V</u>	<u>A</u>	<u>V</u>	<u>L</u>	<u>D</u>
1846	1855	1864	1873	1882	1891												
AAA	GTT	ACT	GAC	TTC	CTC	TTC	CTG	TTG	GGC	AAA	CTT	CTG	ATC	GTT	GGT	AGT	GTG
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>K</u>	<u>V</u>	<u>T</u>	<u>D</u>	<u>F</u>	<u>L</u>	<u>F</u>	<u>L</u>	<u>L</u>	<u>G</u>	<u>K</u>	<u>L</u>	<u>L</u>	<u>I</u>	<u>V</u>	<u>G</u>	<u>S</u>	<u>V</u>
1900	1909	1918	1927	1936	1945												
GGG	ATC	CTG	GCT	TTC	TTC	TTC	ACC	CAC	CGT	ATC	AGG	ATC	GTG	CAG	GAT	ACA	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<u>G</u>	<u>I</u>	<u>L</u>	<u>A</u>	<u>F</u>	<u>F</u>	<u>F</u>	<u>F</u>	<u>T</u>	<u>H</u>	<u>R</u>	<u>I</u>	<u>R</u>	<u>I</u>	<u>V</u>	<u>Q</u>	<u>D</u>	<u>T</u>

FIG. 7D

1954	1963	1972	1981	1990	1999
GCA CCA CCC CTC	AAT TAT TAC TGG GTT CCT ATA CTG ACG GTG ATC GTT GGC TCC				
-----	-----	-----	-----	-----	-----
A P P L N Y Y W V P I L T V I V G S					
2008	2017	2026	2035	2044	2053
TAC TTG ATT GCA CAC GGT TTC TTC AGC GTC TAT GGC ATG TGT GTG GAC ACG CTG					
-----	-----	-----	-----	-----	-----
Y L I A H G F F S V Y G M C V D T L					
2062	2071	2080	2089	2098	2107
TTC CTC TGC TTC TTG GAG GAC CTG GAG AGG AAT GAC GGC TCG GCC GAG AGG CCT					
-----	-----	-----	-----	-----	-----
F L C F L E D L E R N D G S A E R P					
2116	2125	2134	2143	2152	2161
TAC TTC ATG TCT TCC ACC CTC AAG AAA CTC TTG AAC AAG ACC AAC AAG AAG GCA					
-----	-----	-----	-----	-----	-----
Y F M S S T L K K L L N K T N K K A					
2170	2179	2188	2197	2206	2215
GCG GAG TCC TGA AGG CCC CGT GCT CCC CAC CTC TCA AGG AGT CTC ATG CCG CAG					
-----	-----	-----	-----	-----	-----
A E S *					
2224	2233	2242	2251	2260	2269
GGT GCT CAG TAG CTG GGT CTG TTC CCC CAG CCC CTT GGG CTC ACC TGA AGT CCT					
-----	-----	-----	-----	-----	-----
2278	2287	2296	2305	2314	2323
ATC ACT GCC GCT CTG CCC CTC CCC ATG AGC CAG ATC CCA CCA GTT TCT GGA CGT					
-----	-----	-----	-----	-----	-----
2332	2341	2350	2359	2368	2377
GGA GAG TCT GGG GCA TCT CCT TCT TAT GCC AAG GGG CGC TTG GAG TTT TCA TGG					
-----	-----	-----	-----	-----	-----
2386	2395	2404	2413	2422	2431
CTG CCC CTC CAG ACT GCG AGA AAC AAG TAA AAA CCC ATT GGG GCC TCT TGA TGT					
-----	-----	-----	-----	-----	-----
2440	2449	2458	2467	2476	2485
CTG GGA TGG CAC GTG GCC CGA CCT CCA CAA GCT CCC TCA TGC TTC CTG TCC CCC					
-----	-----	-----	-----	-----	-----
2494	2503	2512	2521	2530	2539
GCT TAC ACG ACA ACG GGC CAG ACC ACG GGA AGG ACG GTG TTT GTG TCT GAG GGA					
-----	-----	-----	-----	-----	-----
2548	2557	2566	2575	2584	2593
GCT GCT GGC CAC AGT GAA CAC CCA CGT TTA TTC CTG CCT GCT CCG GCC AGG ACT					
-----	-----	-----	-----	-----	-----
2602	2611	2620	2629	2638	2647
GAA CCC CTT CTC CAC ACC TGA ACA GTT GGC TCA AGG GCC ACC AGA AGC ATT TCT					
-----	-----	-----	-----	-----	-----
2656	2665	2674	2683	2692	2701
TTA TTA TTA TTA TTT AAC CTG GAC ATG CAT TAA AGG GTC TAT TAG CTT TCA					
-----	-----	-----	-----	-----	-----
2710	2719	2728	2737		
AAA A 3'					
-----	-----	-----	-----	-----	-----

FIG. 8

Score = 589 bits (1502), Expect = e-167
Identities = 317/707 (44%), Positives = 408/707 (56%), Gaps = 34/707 (4%)

24P4C12 12 AYGKPVKYDPSFRGPIKNRSCTDVICCVLFLLFILGYIVVGIVAWLYGDPRQVLYPRNST 71
AYG P KYDP+F+GPI NR CTD+ICCV LL I+GY+ VGI+AW +GDP+V+YP +S
H38087 9 AYGTPQKYDPTFKGPIYNRGCTDIICCVFLLAIVGYVAVGIIAWTHGDPRKVIYPTDSR 68

24P4C12 72 GAYCGMG--ENKDKPYLLYFNIFSCILSSNIISVAENGLQCPTPQCVSSCPEDPWTVGK 129
G +CG +N++KPYL YFNI C ++ QCPTPQ+CV CP D +
H38087 69 GEFCGQKGTKNENKPYLFYFNIVKASPLVLE----FQCPTPQICVKEKCP-DRYLTYL 122

24P4C12 130 NEFSQTVGEVFYTKNRFCLPGPVWNMTVITSLLQQELCPSFLLPSAPALGRCPWTVNTP 189
N S E + + FC+PG N V L+ CP+ L+PS P RCFP +
H38087 123 NARSSRDFEY---KQFCVPGFKNNKGVAEVLRDGDCPAVLIPSKPLARRCFPAIHAYK 178

24P4C12 190 PALPGITNDTTIQQG-----ISGLIDS-----LNARDISVKIFEDFAQSWYWIXXXX 236
L + N+TT + G I+ L++ L AR +++++IFED+ SWYWI
H38087 179 GVLM-VGNETTYEDGHGSRKNITDLVEGAKKANGVLEARQLAMRIFEDYTVSWYWIIGL 237

24P4C12 237 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXCWEERYRLRDKGAS---ISQL 293
+C+ EY LR + S + L
H38087 238 VIAMAMSSLFIILLRFLAGIMVWMIIMVILVLYGIFHCYMEYSRLRGEAGSDVSLVLDL 297

24P4C12 294 GFTTNLSAYQSVQETWXXXXXXXXXXXXXXXXXXXXXXRQRIRIAIALLKEASKAVGQMM 353
GF T+ Y +++TW R+RI IAIAL+KEAS+AVG +M
H38087 298 GFQTDFRVYLHLRQTLAFMIILSILEVIIILLIFLRKRLILIAIALLKEASRAVGYVMC 357

24P4C12 354 TMFYPLVTFVLLICIAWAMTALYLATSGQPQYVLWASNISSPGCEKVPINTSCNPTAH 413
+ YPLVTF LL +CIAYWA TA++L+TS + Y ++ + P K N P++H
H38087 358 SLLYPLVTFLLCLCIAYWASTAVFLSTSNEAVYKIFDDS-PCPFTAKT-CNPETFPSSH 415

24P4C12 414 LVNSSCPGLMCVFQGYSSKGLIQRSVFNLQIYGVGLFWTLNWVLALGQCVLAGAFASFY 473
+ CP C F Y + R++ LQI+ FW N+VLAGQ LAGAFAS+Y
H38087 416 -ESRQCPNARQFVYGGESGYHRALLGLQIFNAFMFFWLANFVLALGQVTLAGAFASYY 474

24P4C12 474 WAFHKPQDIPTFPLISAFIRTLRYHTGSLAFGALILTLVQIARVILEYIDHKLRGVQNPV 533
WA KP D+P FPL SAF R LRYHTGSLAFGALIL +VQI RVILEY+D +L+ +N
H38087 475 WALRKPDPLPAFPLSAFGRALRYHTGSLAFGALILAIQIIRVILEYLDQRLKAAENKF 534

24P4C12 534 ARCIMCCFKCCLWCLEKFIKFLNRNAYIMIAIYGKNFCVSAKNAFMLLMRNIXXXXXXX 593
A+C+M C KCC WCLEKFIKFLNRNAYIMIAIYG NFC SA+NAF LLMRNI
H38087 535 AKCLMTCLKCCFWCLEKFIKFLNRNAYIMIAIYGTNFCTSARNAFFLMLRNIIIRVAVLDK 594

24P4C12 594 XXXXXXXXXXXXXXXXXXXXXXXXXRIPGLGKDFKSPHLNYYWLPIMTSILGAYVIAS 653
RI + +D +P LNYYW+PI+T I+G+Y+IA
H38087 595 VTDFLFLLGKLLIVGSVGILAFFFTHRI-RIVQD-TAPPLNYWVPILTIVGSYLIAB 652

24P4C12 654 GFFSVFGMCVDTLFLCFLEDLERNNNGSLDRPYMSKSLLKILGKNE 700
GFFSV+GMCVDTLFLCFLEDLERN+GS +RPY+MS +L K+L K N+
H38087 653 GFFSVYGMCVDTLFLCFLEDLERNDGSAERPYFMSSTLKKLLNKTNK 699

FIG. 9A

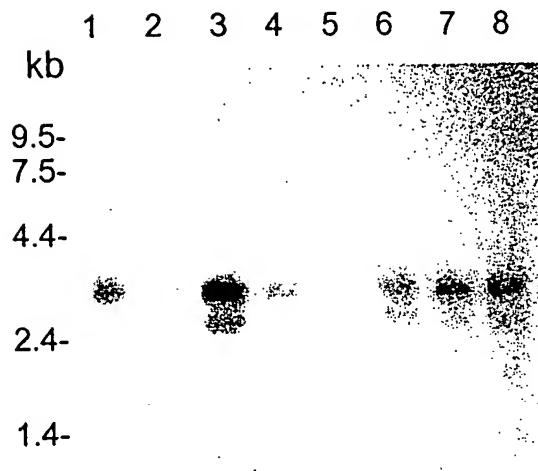


FIG. 9B

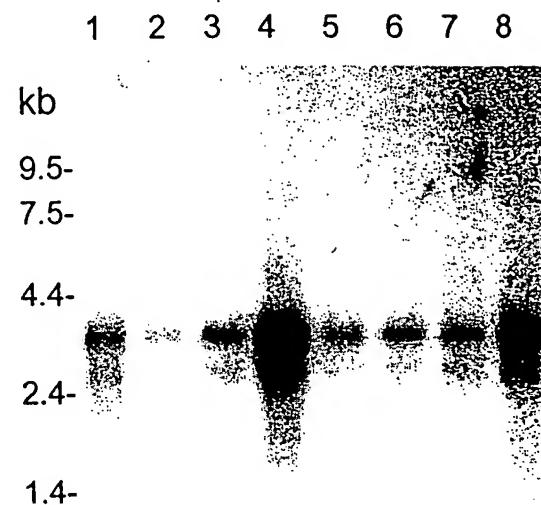


FIG. 9C

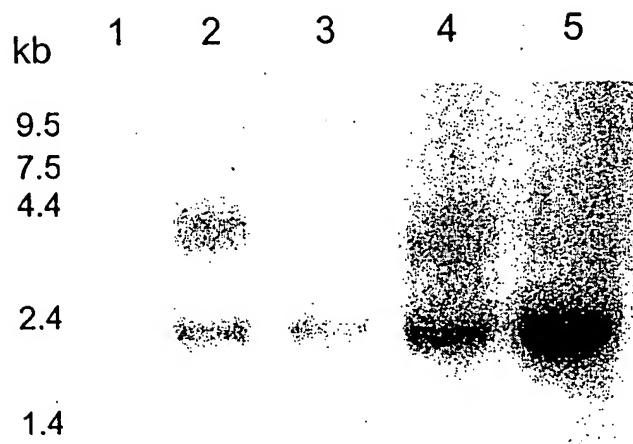


FIG. 10A

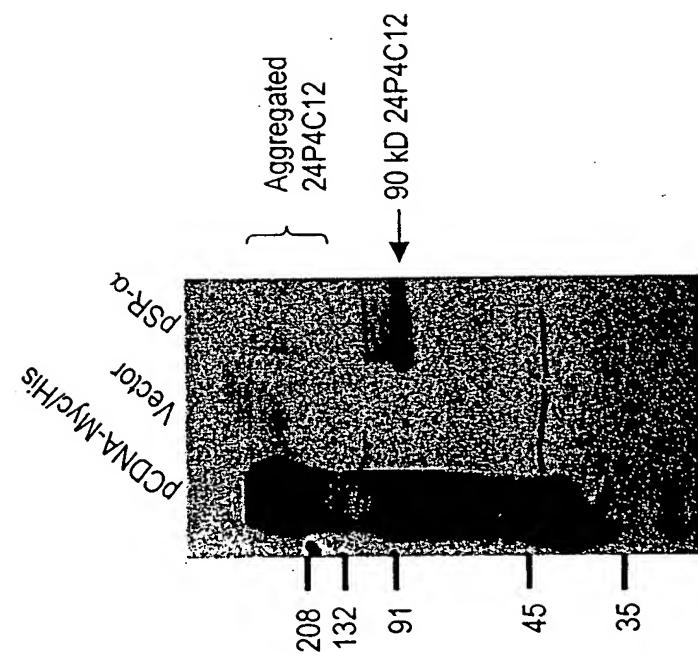


FIG. 10B

